



# SZABO SCANDIC

Part of Europa Biosite

## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

Weitere Information auf den folgenden Seiten!  
See the following pages for more information!



### Lieferung & Zahlungsart

siehe unsere [Liefer- und Versandbedingungen](#)

### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

### SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

[mail@szabo-scandic.com](mailto:mail@szabo-scandic.com)

[www.szabo-scandic.com](http://www.szabo-scandic.com)

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 



# PP2A-C $\alpha$ shRNA (h) Lentiviral Particles: sc-43509-V

## BACKGROUND

In eukaryotes, the phosphorylation and dephosphorylation of proteins on serine and threonine residues is an essential means of regulating a broad range of cellular functions, including division, homeostasis and apoptosis. A group of proteins that are intimately involved in this process are the protein phosphatases. In general, the protein phosphatase (PP) holoenzyme is a trimeric complex composed of a regulatory subunit, a variable subunit and a catalytic subunit. Four major families of protein phosphatase catalytic subunits have been identified, designated PP1, PP2A, PP2B (calcineurin) and PP2C. Characteristic of the protein phosphatase complexes, the PP2A phosphatase core enzyme is composed of a regulatory subunit and a catalytic subunit, the latter of which exists as two isoforms, designated PP2A $\alpha$  and PP2A $\beta$ . The multiple subunits of PP2A work in concert to regulate a variety of metabolic pathways, including transcription, translation, cell cycle progression and oncogenic transformation.

## REFERENCES

1. Strack, S., et al. 2002. Protein phosphatase 2A holoenzyme assembly: identification of contacts between B-family regulatory and scaffolding A subunits. *J. Biol. Chem.* 277: 20750-20755.
2. Avdi, N.J., et al. 2002. A role for protein phosphatase-2A in p38 mitogen-activated protein kinase-mediated regulation of the c-Jun NH<sub>2</sub>-terminal kinase pathway in human neutrophils. *J. Biol. Chem.* 277: 40687-40696.

## CHROMOSOMAL LOCATION

Genetic locus: PPP2CA (human) mapping to 5q31.1.

## PRODUCT

PP2A-C $\alpha$  shRNA (h) Lentiviral Particles is a pool of concentrated, transduction-ready viral particles containing 3 target-specific constructs that encode 19-25 nt (plus hairpin) shRNA designed to knock down gene expression. Each vial contains 200  $\mu$ l frozen stock containing  $1.0 \times 10^6$  infectious units of virus (IFU) in Dulbecco's Modified Eagle's Medium with 25 mM HEPES pH 7.3. Suitable for 10-20 transductions. Also see PP2A-C $\alpha$  siRNA (h): sc-43509 and PP2A-C $\alpha$  shRNA Plasmid (h): sc-43509-SH as alternate gene silencing products.

## RESEARCH USE

The purchase of this product conveys to the buyer the nontransferable right to use the purchased amount of the product and all replicates and derivatives for research purposes conducted by the buyer in his laboratory only (whether the buyer is an academic or for-profit entity). The buyer cannot sell or otherwise transfer (a) this product (b) its components or (c) materials made using this product or its components to a third party, or otherwise use this product or its components or materials made using this product or its components for Commercial Purposes.

## STORAGE

Store lentiviral particles at -80 $^{\circ}$  C. Stable for at least one year from the date of shipment. Once thawed, particles can be stored at 4 $^{\circ}$  C for up to one week. Avoid repeated freeze thaw cycles.

## APPLICATIONS

PP2A-C $\alpha$  shRNA (h) Lentiviral Particles is recommended for the inhibition of PP2A-C $\alpha$  expression in human cells.

## SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200  $\mu$ l frozen viral stock containing  $1.0 \times 10^6$  infectious units of virus (IFU); contains an shRNA construct encoding a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA.

## GENE EXPRESSION MONITORING

PP2A-C $\alpha$  (N-25): sc-130237 is recommended as a control antibody for monitoring of PP2A-C $\alpha$  gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker<sup>TM</sup> compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker<sup>TM</sup> Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz<sup>TM</sup> Mounting Medium: sc-24941.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PP2A-C $\alpha$  gene expression knockdown using RT-PCR Primer: PP2A-C $\alpha$  (h)-PR: sc-43509-PR (20  $\mu$ l, 578 bp). Annealing temperature for the primers should be 55-60 $^{\circ}$  C and the extension temperature should be 68-72 $^{\circ}$  C.

## BIOSAFETY

Lentiviral particles can be employed in standard Biosafety Level 2 tissue culture facilities (and should be treated with the same level of caution as with any other potentially infectious reagent). Lentiviral particles are replication-incompetent and are designed to self-inactivate after transduction and integration of shRNA constructs into genomic DNA of target cells.

## SELECT PRODUCT CITATIONS

1. Sen, S., et al. 2012. Maintenance of higher H<sub>2</sub>O<sub>2</sub> levels, and its mechanism of action to induce growth in breast cancer cells: important roles of bioactive catalase and PP2A. *Free Radic. Biol. Med.* 53: 1541-1551.
2. Sen, S., et al. 2013. Mitochondrial-associated nitric oxide synthase activity inhibits cytochrome c oxidase: implications for breast cancer. *Free Radic. Biol. Med.* 57: 210-220.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.